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| MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101 | | | HAN, JASON | |
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| | | | 2875 | |

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/696,175 | Applicant(s) AYNIE ET AL. | |
| | Examiner Jason M. Han | Art Unit 2875 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>1/31/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Pages 17-20, filed December 23, 2004, with respect to the rejection(s) of Claim(s) 1-30 under 35 U.S.C. 102(e) and 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032).

The following rejections have been read in light of the specification, but rendered the broadest interpretation [MPEP 2111], wherein the prior art has met all structural limitations.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by Rawlings (G.B. Patent 531185).

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Rawlings discloses a lamp [Figure 1: (A)] having an optical axis extending from a first end portion to a second end portion, and including:

- A light source [Figure 1: (G)] disposed so as to emit light rays toward the second portion along the axis;
- A light engine [Figure 1: (J)] disposed downstream of the light source, whereby the light engine is made of a transparent material having a refractive index greater than air [Page 2, Lines 8-10; Page 1, Lines 84-88], and further including:
 - = An inlet face [Figure 1: (H)] arranged axially opposite the light source and having a profile, in axial section, such that most of the rays of light [Figure 1: (L)] emitted by the source penetrate into the light engine;
 - = An outlet face [Figure 1: (K2, K3)] arranged generally radially opposite at least one axial section of the coaxial annular reflector;
 - = At least one front inner reflection face [Figure 1: surface opposite of (K3)]; and
 - = A rear inner reflection face [Figure 1: (K1)] of concave parabolic annular shape, which is focused on the light source.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 13-16, 20-24, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032).

4. With regards to Claim 1, Rawlings discloses a lamp [Figure 1: (A)] having a light source [Figure 1: (G)] arranged along an optical axis oriented from the rear to the front of the lamp at a solid angle centered on the axis, and an optical device including:

- A coaxial annular reflector [Figure 1: (D, E , F)]; and
- A light engine [Figure 1: (J)] of transparent material having a refractive index greater than that of air [Page 2, Lines 8-10; Page 1, Lines 84-88] and disposed in front of the light source and further including:
 - = An inlet face [Figure 1: (H)] arranged axially opposite the light source and having a profile, in axial section, such that most of the rays of light [Figure 1: (L)] emitted by the source penetrate into the light engine;
 - = An outlet face [Figure 1: (K2, K3)] arranged generally radially opposite at least one axial section of the coaxial annular reflector;
 - = At least one front inner reflection face [Figure 1: surface opposite of (K3)]; and
 - = A rear inner reflection face [Figure 1: (K1)] of concave parabolic annular shape, which is focused on the light source.

Rawlings does not specifically teach the lamp being an indicator lamp for a motor vehicle.

Kondo teaches conventional lighting equipment (obvious matter of design choice with respect to an indicator light, brake light, headlight, taillight, etc.) for vehicles using an LED lamp [see Abstract]. In addition, Kondo teaches a light engine [Figures 1, 3: (4); Figure 4: (7)] in front of a light source [Figures 1, 3, 4: (2)].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the lamp assembly of Rawlings with the LED vehicle light of Kondo to provide a desired optical effect, as well as a very inexpensive reflector [see Rawlings: Page 1, Line 9]. In addition, it is obvious that one ordinarily skilled in the art would want to modify the lamp assembly of Rawlings with the LED vehicle light of Kondo for the commonly known benefits associated with light emitting diodes (i.e. long life, durability, efficiency, low power consumption, small size).

Lastly, it should be mentioned that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

5. With regards to Claim 3, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawlings discloses the front inner reflection face [Figure 1: surface opposite of (K3)] arranged axially opposite the rear reflection face [Figure 1: (K1)], but fails to specifically teach said face having a shape of convex parabolic annular. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the front inner reflection face into a convex parabolic annular shape, since it has been held to be within the general

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skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. c. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835. In this case, it is obvious that changing the shape of the front inner reflection face may provide a user with a desired optical effect and illumination.

6. With regards to Claim 4, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Kondo teaches an outlet face of convex hemispherical annular shape [Figure 4: (7d)] that is associated with a parabolic front reflection face [Figure 4: (7a)], and which is centered on a focus of the associated parabola [Figure 4: (f2)].

7. With regards to Claim 5, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Kondo teaches a light engine having a front conical front reflection face [Figure 4: (7a)] centered about an optical axis of the light source [Figure 1: (X)].

8. With regards to Claim 6, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Kondo teaches a front conical reflection face [Figure 3: (4c)] having a vertex substantially equal to ninety degrees, and wherein there is a substantially cylindrical outlet face arranged radially opposite the conical face.

9. With regards to Claim 7, Rawlings in view of Kondo discloses the claimed invention as cited above. The method of forming a device is not germane to the issue of the device itself. Therefore, the limitation that at least one section of the front reflection face is obtained by anamorphosis has not been given patentable weight.

10. With regards to Claim 8, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawlings teaches the light engine including a peripheral annular portion [Figure 1: (K1, K2, K3)] that extends transversely outwards, and a front outlet face [Figure 1: (K2, K3)] provided with coaxial circular ridges along the optical axis.

11. With regards to Claim 13, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawlings teaches the front inner reflection face [Figure 1: surface opposite of (K3)] being coaxial annular in shape, and wherein the light engine includes a front central outlet face [Figure 1: (K3)] adjacent to the front reflection face.

12. With regards to Claim 14, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Kondo teaches a front central outlet face including a series of elementary dioptric distribution elements [Figure 1: (6a)].

13. With regards to Claim 15, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Kondo teaches an inlet face [Figure 4: (7b)] of a light engine having a concave hemispherical portion centered about a light source [Figure 4: (2)].

14. With regards to Claim 16, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawlings teaches the inlet face of the light engine including a central portion [Figure 1: surface opposite of (K3)] that forms a collimator.

15. With regards to Claim 20, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawlings teaches the front face of the coaxial

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reflector being reflective [Figure 1: (D, E)], and wherein the front face includes at least one axial section [Figure 1: (D3)] that is parallel to an associated section of the front reflection face [Figure 1: surface opposite of (K3)] of the light engine.

16. With regards to Claim 21, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawlings teaches the front face [Figure 1: (D, E)] of the reflector being reflective, wherein the front face includes a series of elementary reflection facets.

17. With regards to Claim 22, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawlings teaches the front face of the reflector [Figure 1: (D, E)] being echeloned axially towards the front and transversely outwards.

18. With regards to Claim 23, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawling teaches the coaxial annular reflector being made of a transparent material having a refractive index greater than air [Page 1, Lines 84-88], whereby the profile of the front face of the reflector is such that the rays of light are refracted inside the reflector when they strike the front face and then off the rear face of the reflector toward the front.

19. With regards to Claim 24, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Kondo teaches a coaxial annular reflector [Figure 1: (5)] including a reflecting surface/coating [Column 3, Lines 5-6].

20. With regards to Claim 29, Rawlings in view of Kondo discloses the claimed invention as cited above. It would have been obvious to one having ordinary skill in the art at the time the invention was made to integrate the light engine in the light source,

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since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893). In this case, combining the two components would save space.

21. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032) as applied to Claim 1 above, and further in view of Carel (U.S. Patent 4177505).

22. With regards to Claim 9, Rawlings in view of Kondo discloses the claimed invention as cited above, but does not specifically teach the front reflection face provided with catadioptric patterns.

Carel teaches an indicator light incorporating a catadioptric element for an automobile [see Abstract].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the front reflection face of Rawlings in view of Kondo to incorporate the catadioptric element of Carel in order to provide a stronger illumination at the front portion where the light engine is located while still reflecting partial light to the coaxial annual reflector for a wider and uniform distribution.

23. With regards to Claim 10, Rawlings in view of Kondo, and further in view of Carel discloses the claimed invention as cited above. In addition, Rawlings teaches the outlet face [Figure 1: (K2, K3)] being at least partly coincident with the rear reflection face [Figure 1: (K1)].

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24. With regard to Claims 11-12, Rawlings in view of Kondo, and further in view of Carel discloses the claimed invention as cited above. In addition, Carel further teaches the catadioptric elements having prisms that are typically trirectangular trihedrons [Column 1, Line 14]. Such trihedrons may be arranged to reflect or refract according to design preference. To quote Carel, "In a usual embodiment, some of these prisms are separated by flat surfaces parallel to the outer surface of the catadioptric element so that, the catadioptric element being associated with a lamp and a reflector, the zone the flat surfaces acts as a plate with parallel faces so as to transmit the light rays from the lamp or reflected on the reflector without deflecting the direction thereof, the catadioptric prisms then functioning, for a beam of determined directions of incidence with respect to the axis of these prisms, as total-reflexion prisms [Column 1, Lines 15-25; underlines added by examiner]."

25. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032) as applied to Claim 1 above, and further in view of Serizawa (U.S. Publication 2002/0034081).

26. With regards to Claim 17, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Kondo teaches a light engine including a generally hemispherical inlet face [Figure 4: (7b)] centered about a light source [Figure 4: (2)], and an outlet face [Figure 4: (7d)] providing an exit for refracted light leaving the optical component/light engine [Figure 4: (7)] towards the coaxial annular reflector [Figure 1: (5)].

Neither Rawlings nor Kondo specifically teaches the inlet face having coaxial annular echelons to refract light.

Serizawa discloses a vehicle lamp wherein a Fresnel lens having coaxial annular echelons [Figure 5: (32)] is provided to receive and refract light from a source [Figure 5: (28)].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the inlet face of Rawlings in view Kondo to incorporate the Fresnel lens of Serizawa in order to provide more options with respect to optical characterization for a light beam [i.e. uniform distribution/diffusion as commonly associated with Fresnel lenses].

27. With regards to Claim 18, Rawlings in view of Kondo, and further in view of Serizawa discloses the claimed invention as cited above. In addition, Kondo teaches an outlet face of generally hemispherical shape centered about the light source [Figure 4: (7d)].

28. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032) and Serizawa (U.S. Publication 2002/0034081) as applied to Claim 17 above, and further in view of Lehman (U.S. Patent 1897202).

Rawlings in view of Kondo, and further in view of Serizawa discloses the claimed invention as cited above, wherein a light engine has an inlet face, but does not specifically teach a light diffusion face arranged axially opposite a central zone of the inlet face.

Lehman discloses an axially central light diffusion face [Figure 1: (4, 5)] that is opposite of a light source [Figure 1: (4)].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the inlet face of Rawlings in view of Kondo, and further in view of Serizawa to incorporate the diffusion face of Lehman in order to prevent glare in the eyes of approaching drivers or pedestrians [see Lehman: Column 1, Lines 1-6].

29. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032) as applied to Claim 24 above, and further in view of Gotou (U.S. Patent 6402356).

Rawlings in view of Kondo discloses a rear face of a reflector as cited above, but does not specifically teach the rear face including a series of elementary reflection facets.

Gotou teaches a similar embodiment of a reflector further including a series of elementary reflection facets on a rear face [Figure 5: (5)].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the rear face of Rawlings in view of Kondo to incorporate the elementary reflection facets of Gotou in order to provide greater optical control and characterization for the light beam. It may also provide a reflector with smaller thickness and a simpler construction wherein both the front and rear faces are of exact/similar dimensions.

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30. Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032) as applied to Claim 23 above, and further in view of Gotou (U.S. Patent 6402356).

31. With regards to Claim 26, Rawlings in view of Kondo discloses the claimed invention as cited above. In addition, Rawling teaches the front face of the reflector including generally axial portions [Figure 1: (E)] arranged substantially orthogonally with respect to the direction of the rays of light coming from the light engine, and generally radial portions [Figure 1: (D)], which are located between two axial portions. However, neither Rawlings nor Kondo specifically teaches a reflector having a rear face with similar/parallel dimensions to the front face.

Gotou discloses a reflector including a series of elementary reflection facets on a rear face [Figure 5: (11a)] that are similar/parallel in dimension to a front face of the reflector [Figure 5: (11b)].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the rear face of Rawlings in view of Kondo to incorporate the elementary reflection facets of Gotou in order to provide a reflector with smaller thickness and simpler construction wherein both the front and rear faces are of exact/similar dimensions.

32. With regards to Claim 28, Rawlings in view of Kondo, and further in view of Gotou discloses the claimed invention as cited above, but does not specifically teach the front face having a series of elementary dioptric distribution elements. However in Figure 1, Kondo illustrates a front lens including a number of dioptric elements (6a),

which are commonly known within the art, for assisting vision and focusing a light. It would have been obvious to further modify the central outlet face to include multiple dioptric elements to provide a lamp with a desired optical effect in altering a light beam.

33. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings (G.B. Patent 531185) in view of Kondo et al. (U.S. Patent 6558032) as applied to Claim 23 above, and further in view of Carel (U.S. Patent 4177505).

Rawlings in view of Kondo discloses a rear face on a reflector as cited above, but does not specifically teach the rear face including a series of catadioptric patterns having two faces.

Carel discloses an indicator light incorporating a catadioptric element for an automobile [see Abstract]. Carel further teaches the catadioptric elements having prisms that are typically trirectangular trihedrons [Column 1, Line 14]. Such trihedrons may be arranged to reflect or refract according to design preference. To quote Carel, "In a usual embodiment, some of these prisms are separated by flat surfaces parallel to the outer surface of the catadioptric element so that, the catadioptric element being associated with a lamp and a reflector, the zone the flat surfaces acts as a plate with parallel faces so as to transmit the light rays from the lamp or reflected on the reflector without deflecting the direction thereof, the catadioptric prisms then functioning, for a beam of determined directions of incidence with respect to the axis of these prisms, as total-reflexion prisms [Column 1, Lines 15-25; underlines added by examiner]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the rear face of Rawlings in view of Kondo to incorporate

the catadioptric elements of Carel in order to provide greater optical control for the light beam.

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on January 31, 2005 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (3/3/2005)



JOHN ANTHONY WARD
PRIMARY EXAMINER